CLAIMS

1. The use of prebiotics for the preparation of food or pharmaceutical compositions intended for the treatment and/or the prevention of hyperglycemic syndromes and in particular for the treatment of type II diabetes and/or for preventing the appearance of a type II diabetes in subjects presenting a predisposition to develop this type of diabetes, namely in subjects presenting clinical signs predictive of this diabetes, such as a decrease in glucose tolerance, or sensitivity to insulin, in particular in subjects presenting a hereditary predisposition to develop this type of diabetes, or linked to their eating habits, said subjects suffering from obesity, or being at risk of becoming obese.

2. The use according to claim 1, of one or more prebiotics chosen from the compositions of non-digestible oligosaccharides comprising chain formations of identical or different monosaccharides, and whose degree of polymerization varies between 2 and 10, and preferably between 3 and 8.

3. The use according to claim 1 or 2, characterized in that the monosaccharides of the oligosaccharidic compositions are chosen from glucose, fructose, galactose, xylose, mannose, rhamnose and fucose.

4. The use according to one of claims 1 to 3, characterized in that the prebiotics are chosen from:

- glucooligosaccharides (GOS), namely glucose polymers of general formula [O-α-D-glucopyranosyl]$_n$ where n is an integer from 2 to 10, and preferably from 3 to 8, such as the polymers of general formula [O-α-D-glucopyranosyl-(1→2)][O-α-D-glucopyranosyl-(1→6)]$_n$[O-α-D-glucopyranosyl-(1→4)]O-D-glucopyranose where n is an integer from 1 to 10, and the position of the α(1→2) bond is situated either at the non-reducing end, or is situated branched on the next-to-last glucose of the chain, or the polymers of the maltooligosaccharide type of general formula [O-α-D-glucopyranosyl-(1→4)]$_n$ where n is an integer from 2 to 10, or isomaltooligosaccharides of general formula [O-α-D-glucopyranosyl-(1→6)]$_n$ where n is an integer from 2 to 10,

- fructooligosaccharides (FOS) of general formula O-α-D-glucopyranosyl-(1→2)-[O-β-D-fructofuranosyl-(1→2)]$_n$ or [O-β-D-fructofuranosyl-(1→2)]$_m$ where n is an integer from 2 to 9, and m is an integer from 1 to 9,

- galactooligosaccharides of general formula O-α-D-glucopyranosyl-(1→4)-[O-β-D-galactopyranosyl-(1→6)]$_n$ where n is an integer from 2 to 5,

- xylooligosaccharides of general formula [O-β-xylofuranosyl-(1→4)]$_n$ where n is an integer from 2 to 9,

- soybean oligosaccharides such as raffinose of formula O-α-D-galactopyranosyl-(1→6)-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside and stachyose of formula [O - α - D – galactopyranosyl - (1→6)]$_2$ - O - α - D - glucopyranosyl - (1→2) - O - β - D-fructofuranoside,

- lactulose of formula O-β-D-galactopyranosyl-(1→4)-O-β-D-fructofuranose,

- lactosaccharose of formula O-β-D-galactopyranosyl-(1→4)-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside.

5. The use according to one of claims 1 to 4, characterized in that the prebiotics are chosen from the glucooligosaccharides (GOS).

6. The use according to one of claims 1 to 5, characterized in that the composition of glucooligosaccharides (GOS) is as follows (dry matter content):

- fructose: less than 1%,
- glucose: less than 4%,
- disaccharides (maltose, leucrose, sacharose): from 9 to 11%,
- trisaccharides (panose, maltotriose): from 9 to 11%,
- GOS with a degree of polymerization 4: from 5 to 7%,
- GOS* with a degree of polymerization 4: from 8 to 10%,
- GOS with a degree of polymerization 5: from 18 to 22%,
- GOS with a degree of polymerization greater than 5: from 36 to 44%,

each GOS comprising a glycosidic α(1→2) bond at its non-reducing end or carried by the next-to-last glucose, except the GOS* marked by an asterisk which does not contain any.

7. The use of prebiotics according to one of claims 1 to 6, at a rate of approximately 10 to 30 g/day, up to approximately 100 g/day in the case of the use of GOS.

8. A food composition, nutritional additive, functional food or nutraceutical, comprising one or more prebiotics, and intended for the nourishment of subjects suffering from hyperglycemic syndrome and/or at risk of developing this syndrome, in the context of the treatment and/or the prevention of hyperglycemic syndromes, and in particular for the nourishment of subjects suffering from type II diabetes in the context of the treatment of this pathology and/or for the nourishment of subjects suffering from obesity, or at risk of becoming obese, and presenting a predisposition to develop this type of diabetes, namely in subjects presenting clinical signs predictive of this diabetes, such as a decrease in glucose tolerance, or sensitivity to insulin, in particular in subjects presenting a hereditary predisposition to develop this type of diabetes, or linked to their eating habits, in the context of preventing the appearance of a type II diabetes in these subjects.

9. The food composition, nutritional additive, functional food or nutraceutical, according to claim 8, comprising one or more prebiotics chosen from the compositions of non-digestible oligosaccharides comprising chain formations of identical or different monosaccharides, and whose degree of polymerization varies between 2 and 10, and preferably between 3 and 8.

10. The food composition, nutritional additive, functional food or nutraceutical, according to claim 8 or 9, characterized in that the monosaccharides of the oligosaccharidic compositions are chosen from glucose, fructose, galactose, xylose, mannose, rhamnose and fucose.

11. The food composition, nutritional additive, functional food or nutraceutical, according to one of claims 8 to 10, characterized in that the prebiotics are chosen from:

- glucooligosaccharides (GOS), namely glucose polymers of general formula [O-α-D-glucopyranosyl]$_n$ where n is an integer from 2 to 10, and preferably from 3 to 8, such as the polymers of formula [O-α-D-glucopyranosyl-(1→2)][O-α-D-

glucopyranosyl-(1→6)]$_n$[O-α-D-glucopyranosyl-(1→4)]O-D-glucopyranose where n is an integer from 1 to 10, and the position of the α(1→2) bond is situated either at the non-reducing end, or is situated branched on the next-to-last glucose of the chain, or the polymers of the maltooligosaccharide type of general formula [O-α-D-glucopyranosyl-(1→4)]$_n$ where n is an integer from 2 to 10, or the isomaltooligosaccharides of general formula [O-α-D-glucopyranosyl-(1→6)]$_n$ where n is an integer from 2 to 10,

- fructooligosaccharides (FOS) of general formula O-α-D-glucopyranosyl-(1·2)-[O-β-D-fructofuranosyl-(1→2)]$_n$ or [O-β-D-fructofuranosyl-(1→2)]$_m$ where n is an integer from 2 to 9, and m is an integer from 1 to 9,

- galactooligosaccharides of general formula O-α-D-glucopyranosyl-(1→4)-[O-β-D-galactopyranosyl-(1→6)]$_n$ where n is an integer from 2 to 5,

- xylooligosaccharides of general formula [O-β-xylofuranosyl-(1→4)]$_n$ where n is an integer from 2 to 9,

- soybean oligosaccharides such as raffinose of formula O-α-D-galactopyranosyl-(1→6)-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside and stachyose of formula [O-α-D-galactopyranosyl-(1→6)]$_2$-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside,

- lactulose of formula O-β-D-galactopyranosyl-(1→4)-O-β-D-fructofuranose,

- lactosaccharose of formula O-β-D-galactopyranosyl-(1→4)-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside.

12. The food composition, nutritional additive, functional food or nutraceutical, according to one of claims 8 to 11, characterized in that the prebiotics are chosen from the glucooligosaccharides (GOS).

13. The food composition, nutritional additive, functional food or nutraceutical, according to one of claims 8 to 12, characterized in that the composition of glucooligosaccharides (GOS) is as follows (dry matter content):

- fructose: less than 1%,
- glucose: less than 4%,
- disaccharides (maltose, leucrose, sacharose): from 9 to 11%,
- trisaccharides (panose, maltotriose): from 9 to 11%,
- GOS with a degree of polymerization 4: from 5 to 7%,

- GOS* with a degree of polymerization 4: from 8 to 10%,
- GOS with a degree of polymerization 5: from 18 to 22%,
- GOS with a degree of polymerization greater than 5: from 36 to 44%,

each GOS comprising a glycosidic α(1→2) bond at its non-reducing end or carried by the next-to-last glucose, except the GOS* marked by an asterisk which does not contain any.

14. A pharmaceutical composition characterized in that it comprises one or more prebiotics in combination with a pharmaceutically acceptable vehicle.

15. The pharmaceutical composition according to claim 14, characterized in that it comprises one or more prebiotics chosen from the compositions of non-digestible oligosaccharides comprising chain formations of identical or different monosaccharides, and whose degree of polymerization varies between 2 and 10, and preferably between 3 and 8.

16. The pharmaceutical composition according to claim 14 or 15, characterized in that the monosaccharides of the oligosaccharidic compositions are chosen from glucose, fructose, galactose, xylose, mannose, rhamnose and fucose.

17. The pharmaceutical composition according to one of claims 14 to 16, characterized in that the prebiotics are chosen from:

- glucooligosaccharides (GOS), namely glucose polymers of general formula [O-α-D-glucopyranosyl]$_n$ where n is an integer from 2 to 10, and preferably from 3 to 8, such as the polymers of general formula [O-α-D-glucopyranosyl-(1→2)][O-α-D-glucopyranosyl-(1→6)]$_n$[O-α-D-glucopyranosyl-(1→4)]O-D-glucopyranose where n is an integer from 1 to 10, and the position of the α(1→2) bond is situated either at the non-reducing end, or is situated branched on the next-to-last glucose of the chain, or the polymers of the maltooligosaccharide type of general formula [O-α-D-glucopyranosyl-(1→4)]$_n$ where n is an integer from 2 to 10, or the isomaltooligosaccharides of general formula [O-α-D-glucopyranosyl-(1→6)]$_n$ where n is an integer from 2 to 10,

- fructooligosaccharides (FOS) of general formula O-α-D-glucopyranosyl-(1→2)-[O-β-D-fructofuranosyl-(1→2)]$_n$ or [O-β-D-fructofuranosyl-(1→2)]$_m$ where n is an integer from 2 to 9, and m is an integer from 1 to 9,

- galactooligosaccharides of general formula O-α-D-glucopyranosyl-(1→4)-[O-β-D-galactopyranosyl-(1→6)]$_n$ where n is an integer from 2 to 5,

- xylooligosaccharides of general formula [O-β-xylofuranosyl-(1→4)]$_n$ where n is an integer from 2 to 9,

- soybean oligosaccharides such as raffinose of formula O-α-D-galactopyranosyl-(1→6)-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside and stachyose of formula [O - α - D - galactopyranosyl - (1→6)]$_2$ - O - α - D - glucopyranosyl - (1→2) - O - β - D-fructofuranoside,

- lactulose of formula O-β-D-galactopyranosyl-(1→4)-O-β-D-fructofuranose,

- lactosaccharose of formula O-β-D-galactopyranosyl-(1→4)-O-α-D-glucopyranosyl-(1→2)-O-β-D-fructofuranoside.

18. The pharmaceutical composition according to one of claims 14 to 17, characterized in that the prebiotics are chosen from the glucooligosaccharides (GOS).

19. The pharmaceutical composition according to one of claims 14 to 18, characterized in that the composition of glucooligosaccharides (GOS) is as follows (dry matter content):

- fructose: less than 1%,
- glucose: less than 4%,
- disaccharides (maltose, leucrose, saccharose): from 9 to 11%,
- trisaccharides (panose, maltotriose): from 9 to 11%,
- GOS with a degree of polymerization 4: from 5 to 7%,
- GOS* with a degree of polymerization 4: from 8 to 10%,
- GOS with a degree of polymerization 5: from 18 to 22%,
- GOS with a degree of polymerization greater than 5: from 36 to 44%,

each GOS comprising a glycosidic α(1→2) bond at its non-reducing end or carried by the next-to-last glucose, except the GOS* marked by an asterisk which does not contain any.

20. The pharmaceutical composition according to one of claims 14 to 19, characterized in that it is in a form which can be administered by oral route.

21. The pharmaceutical composition according to one of claims 14 to 20, characterized in that it is administered at a rate of approximately 10 to 30 g/day, up to approximately 100 g/day in the case of the use of GOS.